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ABSTRACT

The overarching variable in this study is the effect of differing amounts of personal contact between teachers and a program coordinator on the degree of implementation of a consumer education curriculum innovation in fifth-grade classrooms. Other variables under study were inservice training, feedback mechanisms, and participation. The sample consisted of 130 fifth-grade teachers from 4 urban and suburban school districts assigned to 5 treatment groups as a result of teachers choosing to attend inservice workshops and requesting additional personal contact with the program coordinator. The instrumentation consisted of a total of 94 self-report questionnaires, representing 72 percent of the sample, and a focused interview with 12 members of the sample. Analysis of the data showed a strong, statistically significant relationship between personal contact with a program coordinator and implementation of a curriculum innovation. As teachers' contact with the coordinator increased, so did level of implementation. Moreover, increases in personal contact and level of implementation were accompanied by increases in teachers' favorable opinion about the general content area and increases in teachers' use of community resources. (MLF)

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WHY TEACHERS IMPLEMENT: AN EXAMINATION OF SELECTED VARIABLES

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The "Education Decade" of the 1960s and 70s ushered in a host of innovations spanning the width and breadth of the elementary and secondary school curriculum. During this period, the education profession witnessed the emergence of the "curriculum developer" who characteristically toiled in the university to design new materials that would transform the teaching of all content areas from science to social studies, compensate the educationally deprived, and challenge the gifted. Many of these innovations were developed to conform to carefully constructed theoretical and conceptual frameworks, field-tested in classroom settings, and certified by researchers as programs that "worked," i.e., they had a statistically significant positive impact on what students learned.

Widespread adoption of these innovations, however, did not yield the anticipated results. Major evaluation studies conducted throughout the late 60s and 70s indicated that no significant changes occurred in educational practices, nor did student outcomes improve significantly.

In a major research effort conducted at the Rand Corporation, Berman and McLaughlin (1977) traced the adoption of new innovations

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in almost 300 school districts and found that it was not the characteristics of the innovation that brought about changes in student outcomes, but rather what the district did with the innovation. In essence, they found that the adoption of an innovation does not assure implementation. Other research is consistent with the Rand findings that adoption of an innovation does not necessarily mean that it is, in fact, being implemented (Smith and Keith, 1971; Gross, Giacquinta, and Bernstein, 1971).

Level of implementation, thus emerged as a critical variable in determining student outcomes generated by curriculum innovation. It became important to study implementation -- to define it, examine it, and to identify those variables that have an impact on it.

Recent research on implementation underscores the central role of teachers in the implementation of new innovations and practices (Crandall, 1983; Fullan, 1982). To determine the impact of an innovation, therefore, it is important to look at what teachers actually do in the classroom and attempt to come to some understanding about why they do the things they do.

The successful implementation of any curriculum innovation requires that the individual teacher make a decision to implement the innovation. At the heart of this study are questions about teacher decision-making. Why does one teacher embrace an innovation while another chooses to ignore it? What are the factors that go into a teacher's decision to implement an innovation?

The literature identifies several variables that influence

whether and how extensively teachers will implement a curriculum innovation. Collectively, these variables have been labeled "determinants" of implementation. Fullan and Pomfret (1977) identified four categories of determinants of implementation. One of the categories is labeled "strategies" and included the following sub-categories: (1) inservice training, (2) resource support (time and materials), (3) feedback mechanisms, and (4) participation.

The overarching variable in this study is the amount of personal contact between teachers and a program coordinator. This variable is a proxy for the four determinants of implementation named above. The other variables of interest in this study, subject/content area and the use of community resources, are not dependent on personal contact. They were examined, however, as possible contributors to an explanation of level of implementation.

Statement of the Problem

It was the purpose of this investigation to study the effect of differing amounts of personal contact between teachers and a program coordinator upon the degree of implementation of a curriculum innovation in fifth-grade classrooms. The hypothesis of this study was that those teachers who had greater amounts of personal contact with a program coordinator were more likely to implement the curriculum innovation.

This problem gives rise to some major questions concerning bringing about change in teacher behavior through personal contact

in the form of inservice training, resource support, feedback mechanisms, and participation in the development and implementation of curriculum innovations. In addition, it raises questions about the importance of the content area and the use of community resources as a factor in bringing about changes in teacher behavior. The study attempted to add to the growing body of literature on the implementation of curricular innovations at the school level and to assist change agents in coming to a greater understanding of why teachers make (or do not make) the decision to implement.

Method

Sample

The sample consisted of 130 fifth-grade teachers from four urban and suburban school districts. All teachers in the sample received a copy of the curriculum innovation, along with written instructions for implementation.

Treatment

The curriculum innovation consisted of 22 units and was included, along with guidelines and procedures, in a book entitled, Classrooms and Community: Using Community Resources in the Consumer Education Curriculum (Smorodin, 1981). Each unit was designed to be taught by a fifth-grade teacher in conjunction with a resource person from an institution outside the school and included two sections to be presented by the teacher and one section to be presented by the resource person. In addition, each unit focused on a particular topic related to consumer

education and was intended to supplement the consumer education textbook that was in use in the classroom.

In order to implement the curriculum innovation as designed, it was necessary for teachers to contact the program coordinator and request that a resource person from a participating institution be scheduled to make a classroom presentation.

All members of the sample had opportunities to participate in inservice workshops conducted by the program coordinator and to request that she provide follow-up assistance in the classroom. Typically, this assistance consisted of visiting the classroom to conduct the Consumer Game, a simulation lesson in which the program coordinator and the teacher worked as partners. The explicit goal of the lesson was to help students acquire specified skills and concepts; however, the lesson also had an implicit goal of motivating teachers to implement the curriculum innovation. The lesson was intended to demonstrate to teachers that their students had a high interest level in the content of the innovation and that the use of classroom visitors could be an effective way to teach certain skills and concepts.

This kind of classroom assistance was an example of resource support, one of the variables under study. This activity also provided the coordinator an opportunity to implement three other variables under study, i.e., inservice training, feedback mechanisms, and participation. During the coordinator's classroom visit, she reinforced training provided at workshops,

strengthened feedback mechanisms, and provided opportunities for teacher participation.

The assignment of teachers to treatment groups was largely through self-selection and occurred as a result of teachers choosing to attend inservice workshops and requesting additional personal contact with the program coordinator. Five groups were identified based on the following criteria:

1. Teachers who received the materials.
2. Teachers who received the materials and had one inservice contact with the coordinator.
3. Teachers who received the materials and had more than one inservice contact with the coordinator.
4. Teachers who received the materials, had more than one inservice contact with the coordinator, amd participated in a program in which the coordinator initiated contact.
5. Teachers who received the materials, had more than one inservice contact with the coordinator, participated in a program in which the coordinator initiated personal contact, and participated in the development of the materials.

The program coordinator scheduled all classroom visits by resource persons. Two kinds of records were kept for each visit: (1) visits per school and (2) visits per participating organization. The coordinator also kept a record of all visits

she made to classrooms and all inservice sessions conducted since the inception of the development of the innovation.

Measuring Implementation

Implementation represents a change effort. If claims of causality are to be made for a particular innovation, then a measurement scheme must be devised for assessing how and whether the desired change occurred. Researchers emphasized the importance of defining the innovation in specific, operational terms (Charters and Pellegrin, 1972; Hall and Loucks, 1977; Gross et al., 1971; Weiss, 1972). Moreover, Lukas and Wohlleb (1973), Stallings (1977), and Rivlin (1975) all addressed the importance of specifying the operational components of an innovation as a basis for measuring implementation. Specific teacher behaviors, thus, become indicators of implementation, not simply the presence of the innovation.

The innovation under study was defined in specific, operational terms which, in turn, served as indicators of level of implementation. A total of eleven teacher behaviors were identified which collectively constituted full implementation of the innovation. Measurement of the implementation of the innovation consisted of an examination of the frequency of each behavior and aggregating these data to suggest the extent to which the innovation was implemented.

Instrumentation

Fullan and Pomfret (1977) identified four methodologies for measuring degree of implementation: (1) direct observation, (2) self-report questionnaire, (3) focused interview, and (4) document analysis. The most rigorous of these methods is direct observation; however, this method is not feasible for large samples. Many researchers were cautious about self-reports Charters and Jones, 1973; Fullan and Pomfret, 1977; Goodlad and Klein, 1970) because there may be discrepancies between reported implementation and actual implementation. Fullan and Pomfret, (1977) reported that the questionnaire can be a useful method for assessing degree of implementation, "provided that it is specific and validated with other methods." (p. 352) In their opinion, the focused interview and document analysis are good methods for supplementing data acquired through questionnaires and allows for a more thorough assessment of degree of implementation.

The instrumentation used in this study consisted of a self-report questionnaire distributed to each person in the sample, a focused interview with 12 members of the sample, and document analysis. See Smorodin, (1984) for copies of the instrumentation.

The questionnaire was a 25-item instrument designed to elicit specific, as opposed to global, responses from teachers about the implementation of the curriculum innovation. One item asked teachers to report whether or not they had implemented the

innovation. This was verifiable through recordkeeping documents. An attempt was made to assess level of implementation by the inclusion of ten items focused on specific behaviors related to the implementation of the innovation. Two items asked teachers to report personal contact with the program coordinator. These were verifiable through recordkeeping documents. Other items asked teachers to give opinions about the importance of the content of the innovation and whether the use of resource persons in the classroom is of benefit to students.

The structured interview instrument was designed to be used with teachers who implemented the innovation and those who did not. It was a branched instrument with different items for teachers from both groups. The instrument included six open-ended questions, three of which focused on level of implementation and two on reasons why the innovation was not implemented. The remaining question asked for feedback about the innovation and was asked of both groups.

Data Collection

The period of time over which implementation data were collected consisted of a school year, September through mid-June. In May, the questionnaire was mailed to all persons in the sample requesting that it be completed and returned to the program coordinator. A total of 94 questionnaires were returned, representing 72 percent of the sample.

The program coordinator conducted structured interviews in May

with 12 teachers who were randomly selected from the sample. Using a structured interview instrument as a guide, the researcher conducted interviews which lasted in length for about 15 minutes each.

Data Analysis

The major focus of the study was to answer the following questions:

1. Are there differences among treatment groups regarding teachers' level of implementation of the curriculum innovation? A one-way analysis of variance was used to determine differences among treatment groups on three indicators of implementation and a composite score.
2. Are there relationships between levels of implementation and (a) personal contact? and (b) content of the curriculum innovation? A correlation analysis was used to determine the strength of the relationships between level of implementation and (a) indicators of personal contact and (b) the importance of the content of the innovation.

In addition to the major questions, the study examined the following areas of interest:

1. What are the reasons teachers cite for choosing not to implement the innovation? A frequency analysis was used to summarize these reasons.

2. Are there differences among treatment groups regarding teachers' opinions about the content of the curriculum innovation? A one-way analysis of variance was used to determine these differences.

Data gathered from the questionnaire and documents were used for statistical analyses. Data gathered from the focused interview were used to provide an additional perspective to the findings and to gain insights about other factors that may affect level of implementation.

Results and Discussion

The central question under examination in this study was: "What is the effect of differing amounts of personal contact between teachers and the program coordinator on the level of implementation of a curriculum innovation?" As a means of determining an answer to this question, there follows a discussion of the results of the data analysis for each of the study's operational questions.

1. Are there differences among treatment groups regarding teachers' levels of implementation of the new curriculum innovation?

Three indicators of implementation were examined, a composite score was developed, and an implementation index was derived. For a more detailed presentation of the data, see Smorodin (1984). As can be seen by Tables I and II, the statistical analyses indicated significant differences among treatment groups regarding teachers' levels of implementation of the curriculum innovation. Moreover,

since the groups represent ascending amounts of personal contact with the program coordinator, the statistical analyses indicated (1) that teachers who had personal contact with the program coordinator were more likely to implement the curriculum innovation, and (2) that as the amount of personal contact with the coordinator increased, so did level of implementation.

TABLE I

ANALYSIS OF VARIANCE
LEVEL OF IMPLEMENTATION
BY TREATMENT GROUPS

GROUP	N	MEAN	VARIANCE
1	40	5.400	118.913
2	20	22.000	896.842
3	16	38.625	2025.983
4	13	75.923	1237.744
5	5	54.200	777.200
TOTAL	94	26.936	1356.641

SOURCE OF VARIATION	SUM OF SQUARES	MEAN OF SQUARES	F
GROUPS	56138.544	14034.636	17.837

df=4 p=<.0001

TABLE II

CROSS TABULATION
IMPLEMENTATION INDEX
BY TREATMENT GROUPS

LEVEL / GROUP	LOW	MEDIUM	HIGH	N
Group 1	39	1	0	40
Row %	98	3	0	
Col %	58	5	0	
Group 2	16	3	1	20
Row %	80	15	5	
Col %	24	16	13	
Group 3	10	2	4	16
Row %	63	13	25	
Col %	15	11	50	
Group 4	1	9	3	13
Row %	8	69	23	
Col %	1	47	38	
Group 5	1	4	0	5
Row %	20	80	0	
Col %	1	21	0	
	67	19	8	94

df=8 Chi Square=57.18 p=.0000

The analyses showed that Group 4 implemented the innovation at a very high level compared to the other groups. It is important to note that this group received the materials five months after the other groups and thus had only three months in which to implement the innovation. It is possible that the "Hawthorne effect" may have had an impact on level of implementation, for teachers in this group were participating in a new program and received a great deal of attention from the coordinator. Moreover, the innovation under study represented only a part of the new program; it is possible that the program in total generated a spirit of enthusiasm for implementing the innovation. It was beyond the scope of this study, however, to examine these effects.

It was also beyond the scope of the study to examine the effects of self-selection. Teachers in Group 4 chose to participate in a new program that began at the beginning of the school year under study. Teachers in Group 5, however, had chosen to participate in a program that occurred prior to the period under study. The focused interview hinted that there may be certain characteristics of students that enter into a teacher's decision to participate in a new program or to implement a new curriculum innovation. A teacher who may be willing to volunteer for a new program or implement an innovation in one school year may be unwilling to do so in another school year because of certain student characteristics and/or behaviors. It was beyond this study to determine the effects of this variable on teacher

behavior.

It was unfortunate that Group 5, the group that participated in the development of the innovation, was made up of only five teachers. This occurred because of reassignment of teachers to other grade levels or administrative positions. The small n was a barrier to determining whether there were differences in level of implementation between this group and Group 4. The data available indicated that no teacher in Group 5 had more than two visits from resource persons; yet, all teachers in the group adapted the innovation for other uses. This raises the question of whether "developers" are more likely to adapt the innovation and whether their level of adaptation is greater than "non-developers"? Again, these issues were not within the scope of this study.

Another factor beyond the scope of this study is the effect of passage of time. If there was, indeed, a "Hawthorne effect" encouraging teachers to be high implementors in their initial year of participation, then it could be expected that level of implementation would decline and/or level off over time. During the period under study, Group 5 was in its third year of involvement with the innovation. Does the number of visits for this group (two visits per teacher) provide an indication of levelling off over time?

A profile of the characteristics of teachers who volunteered for development activities is yet another factor that is beyond the scope of the study. Does the fact that all teachers in

Group 5 continued to adapt the materials suggest that "developers" continually revise, refine, and adapt their own materials? Or is it possible that "developers" move on to other programs and other projects, expending their energies on developing more new materials? Perhaps this could account for the lower level of implementation this group had compared with Group 4, if, indeed, the statistical comparisons are accurate, given the small n of Group 5. Again, the these issues cannot be resolved by the study.

It is of some interest to note that in Group 1 where teachers had no personal contact with the coordinator, only 5 teachers or 13 percent of those who returned the questionnaire had visits from resource persons. Yet, 14 teachers or 35 percent reported that they adapted the curriculum innovation for other uses. It is beyond the scope of this study to determine whether this discrepancy is an accurate reflection of teacher behavior, given that classroom visits were determined as a result of document analysis and adaptations were determined solely through self-reports. The focused interviews, however, suggested that teacher opinion about the general content area may be a possible reason for failure to utilize the material as intended.

One of the indicators of implementation was a measure of the number of visits to teachers' classrooms by resource people. The data indicated that as personal contact with the coordinator increased, teachers were more likely to use community resources by scheduling classroom visits by resource persons. It has been

noted that in Group 1, the group that had no contact with the coordinator, more teachers implemented the curriculum by adapting it for other uses than by using community resources. It is not clear what effect self-selection had on this variable. Did the curriculum innovation attract those teachers who assign a high value to the use of community resources in the classroom, leading them to seek personal contact with the coordinator? Or, did the increased use of community resources emerge as a result of personal contact?

2. Are there differences among treatment groups regarding teachers' opinions about the content of the curriculum innovation?

The statistical analyses indicated significant differences among treatment groups in teachers' assessments of the importance of consumer education. Table III indicates that as personal contact with the program coordinator increased, teachers assigned greater value to the importace of teaching consumer education at the fifth-grade level. What remains to be explored is whether teachers selected themselves into Groups 3, 4, and 5, and thus sought personal contact with the coordinator, because they already believed the content area to be important, or whether teachers assigned greater importance to the content area as a result of their contact with the coordinator.

TABLE III

ANALYSIS OF VARIANCE
IMPORTANCE OF CONSUMER EDUCATION
BY TREATMENT GROUPS

GROUP	N	MEAN	VARIANCE
1	37	6.486	5.368
2	18	7.778	6.536
3	16	9.062	4.063
4	13	9.231	3.526
5	5	10.000	0.000
TOTAL	89	7.809	6.224

SOURCE OF VARIATION	SUM OF SQUARES	MEAN OF SQUARES	F
GROUPS	140.153	35.038	7.221

df=4 p=.0001

TABLE IV

ANALYSIS OF VARIANCE
IMPORTANCE OF CONTENT OF CURRICULUM INNOVATION
BY TREATMENT GROUPS

GROUP	N	MEAN	VARIANCE
1	31	7.742	6.398
2	17	8.235	6.066
3	16	8.188	8.563
4	13	9.615	1.923
5	5	10.000	0.000
TOTAL	82	8.366	6.013

SOURCE OF VARIATION	SUM OF SQUARES	MEAN OF SQUARES	F
GROUPS	46.516	11.629	2.033

df=4 p=.0971

With regard to the specific content of the curriculum innovation under study, there were no significant differences among treatment groups as to teachers' assessments regarding the worth of the materials. As can be seen in Table IV, all teachers gave the materials high ratings. This suggests that personal contact with a coordinator has no bearing on teachers' assessments of curriculum materials.

A possible explanation of the inconsistency between the two questions about content is that teachers viewed the curriculum innovation in a much broader context than "consumer education" materials. The fact that almost half of the teachers who responded reported that they adapted the materials for other uses suggested that this might be so. In addition, it was not necessary for teachers to have a high opinion of consumer education as a content area in order to believe that the materials were worthwhile.

Another possible explanation is that one question was global, requiring that teachers bring to it their own conceptualization of "consumer education," while the other was concrete, asking teachers to respond to specific materials.

3. Are there relationships between levels of implementation and (a) personal contact? and (2) content of the curriculum?

The statistical data indicated a strong relationship between personal contact and level of implementation. See Table V. In those groups where there were greater amounts of personal contact, there was a corresponding increase in level of

implementation. There was a strong relationship also between level of implementation and the global question regarding the importance of teaching consumer education. Teachers who were high implementors also believed it was important to teach consumer education in the fifth grade. Likewise, there was a strong relationship between the importance of teaching consumer education and personal contact. There was a relationship of less strength between personal contact and teachers' assessments of the innovation under study. This is probably the result of the fact that the specific innovation generally received high rating across groups.

TABLE V

CORRELATION ANALYSES

VARIABLES	N	R	P
Implementation Index v. Groups	94	.592	<.0001
Implementation Level v. Groups	94	.628	<.0001
Implementation Level v. Consumer Education	89	.418	.0002
Implementation Level v. Materials	82	.150	.1755
Groups v. Consumer Education	89	.492	<.0001
Groups v. Materials	82	.286	.0091

While it is clear that these relationships exist, caution must be used to provide an interpretation. As has already been discussed, it is not known whether teachers possessed a high opinion about consumer education prior to seeking contact with the program coordinator or whether this opinion emerged as a result of personal contact. It is also not known whether

interest in the content area was a causal factor leading to higher implementation. Finally, it is not known whether there are other teacher characteristics related to implementation which might lead teachers to seek out personal contact. Without trying to assess causal relationships, however, the results of this study indicated that high levels of implementation, greater amounts of personal contact, and high regard for the subject matter and materials appear to go together.

Given that all teachers in the sample gave high ratings to the specific innovation under study, it is not surprising that there was no relationship between level of implementation and assessment of the materials. It can be concluded that teachers' high regard for curricular materials is not sufficient in and of itself to motivate teachers to implement a new innovation.

4. What are the reasons teachers cite for choosing not to implement the innovation?

According to teachers' self-reports, 40 teachers or 43 percent of the sample who returned the questionnaires said they did not implement the curriculum innovation. This is consistent with data collected from other items on the questionnaire and through document analysis. The teachers who reported that they did not implement the curriculum innovation were in Groups 1, 2, and 3, with 65 percent in Group 1, the group that had no contact with the program coordinator. See Table VI. Although Group 1 included more non-implementors than did the other groups, the reasons given for non-implementation were generally the same

across groups: (1) "not enough time to fit into the curriculum," and (2) "was heavily committed to other programs." In essence, the two responses go hand in hand with the second response representing a possible explanation for the first. Both responses indicate that the teacher did not feel there was sufficient time in the school day for this particular innovation.

TABLE VI

CROSS TABULATION
IMPLEMENTATION OF CURRICULUM INNOVATION
BY TEACHERS

IMPLEMENTATION	YES	NO	N
Group 1	14	26	[illegible]
Row %	35	65	
Col %	26	65	
Group 2	12	8	20
Row %	60	40	
Col %	22	20	
Group 3	10	6	16
Row %	63	38	
Col %	19	15	
Group 4	13	0	13
Row %	100	0	
Col %	24	0	
Group 5	5	0	5
Row %	100	0	
Col %	9	0	
	54	40	94

df=4 Chi Square=21.798 p=.0002

Interviews with five teachers who did not implement the innovation also indicated that time was a problem and opened a Pandora's box as to what "not enough time" can mean. To some, it meant that the value to students was doubtful and, therefore, the teacher chose not to allot any time to it. Others chose not to allot the necessary time because the material was not geared to the interest and ability levels of students, while still others felt that other areas of the curriculum claimed higher priorities.

Some teachers pleaded "not enough time" because they were recently assigned to teach the grade level and were expending their energies "learning to teach fifth-grade." They indicated that had a coordinator come to visit them and promote the innovation as "something important," they probably would have "found the time" to implement the materials.

The analysis and interpretation of the data generated several questions that were beyond the scope of the study. Foremost among these are questions embedded in an analysis of the dynamics of personal contact between teachers and a program coordinator. In this study, personal contact was a proxy for the following variables: (1) inservice training, (2) resource support (time and materials), (3) feedback mechanisms, and (4) participation. The study did not examine teachers' needs that are met through personal contact. What variables, in addition to the four under study, are subsumed under "personal contact?" From the teacher's perspective, why is personal contact

important? What is the teacher getting from it?

In a related issue, it may prove important to examine the factors that go into teachers' decisions to volunteer for programs that are intended to change their behavior. What is the relative importance of the content area and/or other specialized features of the innovation? What is the relative importance of contact with a coordinator? What is the relative importance of a need for something "new" to teach? What other needs are being met?

Another area for future study is an examination of the effect of student behavior on changing teacher behavior. Do student characteristics and behaviors affect teachers' decisions to seek new innovations or to avoid them? What is the relative importance of student behavior in changing teacher behavior? Do teachers seek innovations which expand on perceived interests and abilities of students? Do teachers avoid implementing innovations because of perceived student behavior that is deemed incompatible with certain innovations?

From the coordinator's standpoint, personal contact is instrumental in changing teacher behavior, and the study has shown a strong relationship between these two variables. The study was not able to address the long-term effects of personal contact on changing teacher behavior. Will teachers continue to implement a curriculum innovation over time in the absence of continued personal contact? Or, is intensive personal contact during an introductory period sufficient to sustain high

implementation?

One question raised by the study revolved around the effect of "novelty" or "newness" during early stages of implementation. Are teachers more likely to implement an innovation at high levels during an initial period and then drop to a levelling off point over time? Or, is there an ongoing decline in implementation as the innovation ages?

Finally, the study raises some questions about factors that may inhibit the coordinator's effectiveness in bringing about changes in teacher behavior. In this study, the coordinator was able to provide personal contact for approximately 35 percent of the fifth-grade teaching staff. What is the span of influence that can be reasonably expected for a coordinator who engages in personal contact with teachers? What is the optimal number of teachers for one coordinator to work with?

In conclusion, the study showed that that there was a strong, statistically significant relationship between personal contact with a program coordinator and implementation of a curriculum innovation. As teachers' contact with the coordinator increased, so did level of implementation. Moreover, increases in personal contact and level of implementation were accompanied by increases in teachers' opinion about the general content area and increases in teachers' use of community resources. Teachers' favorable ratings of the curriculum innovation did not appear to be related to any of the other variables under study.

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